Appendix C: Ferdinand Rodriquez, Principles of Polymer Systems, 394 (2d 1982)

TABLE 13-5
The ABS Polymers

Styrene, $CH_2 = CH$ ($T_b = 145^{\circ}C$); freeradical, bulk or suspension polymerization; $T_g = 100^{\circ}C$ (amorphous)

Copolymer with 10-40 wt % nitrile; free-radical, bulk or suspension polymerization; $T_g = 105^{\circ}\text{C}$, "SAN plastic"

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Copolymer with 4-20 wt % divinyl benzene; free-radical, suspension polymerization; $T_g = 100^{\circ}$ C sulfonated or alkylated-aminated to give ion-exchange resins.

Unsaturated polyester + 20-30 wt % styrene monomer; free-radical, bulk polymerization; usually reinforced, especially by glass fibers

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Block copolymer with 25 wt % styrene; anionic (Li), solution polymerization $T_g = -60^{\circ}\text{C}$ and $+100^{\circ}\text{C}$; "thermoplastic rubber"

1. Random copolymer with 25% styrene; free-radical, emulsion polymerization; $T_g = -60^{\circ}\text{C}$; "SBR rubber"

2. Random copolymer with 50-75 wt % styrene; free-radical, emulsion polymerization; $T_g = -30$ to 20° C; paint latexes and rubber additives

3. Random copolymer with 25 wt % styrene coordinated complex, solution polymerization; $T_g = -60$ °C; "stereo SBR"

 Random terpolymer with 25 wt % styrene and 5% divinyl benzene; crosslinked SBR, extrusion-smoothing additive for rubber.

Mill blend of polymer A with 5-20 wi % polymer; F-1 or free-radical polymerization of styrene monomer in which SBR is dissolved; bulk, solution, or suspension polymerization; rubber-modified, high-impact, or toughened" polystyrene